

SPRING PASSAGE OF WHIMBREL *NUMENIUS PHAEOPUS* AND OTHER WADERS
OFF THE COAST OF SOMALIA

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I have lived close to the sea in Mogadishu (2°03'N, 45°21'E), Somalia, for parts of three spring migrations in 1979-1981, and have been impressed by the substantial numbers of Whimbrel *Numenius phaeopus* passing north offshore each year. As I have been unable to trace any reference to similar Whimbrel migration in Africa the situation in Somalia is worth recording. It is sufficiently spectacular to have attracted the attention of several visitors to Mogadishu, none of whom has had any particular interest in birds, but local fishermen I questioned, rather surprisingly, had not noticed them.

The passage is apparently a normal annual event judging from my experience in three successive springs, but no really systematic observations have been made, so that the conclusions which follow must be tentative to some extent. I have, however, recorded every flock seen in the three years, and in 1981, besides estimating numbers I also noted height of flight, distance off-shore and time of day. Times of observation were mainly restricted to after 15:00 local time, except for one day a week when observations continued throughout the day, and for a few other days when I observed for an hour or so following dawn. Many flocks, especially low-flying ones, were found whilst I was scanning the sea with a telescope or binoculars for sea-birds; others were first seen with the naked eye, my attention often being drawn to them by distant calls. Approaching flocks could sometimes be found at a great distance to the southwest by scanning the horizon.

In the Mogadishu area the coastline runs about ENE-WSW, but further north and south it runs NE-SW. It therefore provides an excellent leading-line for migrants by day, and also by night because of its line of surf. From about mid March to about the end of April is a season of relatively very little wind between the two monsoons, and with generally good meteorological conditions for migration. However, the situation in 1981 was dissimilar from 1979 and 1980, for on every day there was considerable atmospheric instability with heavy rain showers active in the area or within sight, and the light winds were usually from between south and west, instead of in the opposite quadrant. This may have been the reason for more Whimbrel flocks being further from land (see below).

DATES

The dates of the first flocks passing north varied from year to year (I use the direction 'north' throughout, whereas when passing Mogadishu the birds are actually flying ENE): 6 April 1979, 5 April 1980 and 26 March 1981 (when they were heard but not seen, far overhead). I was away from home from 26 April 1979 and 15 April 1980.

NUMBERS

Over 13000 birds were counted in 145 flocks, and these are summarized in Table 1, where over half the flocks comprised between 31 and 120 individuals. The bulk of the birds (68 per cent) passed in the two weeks 9-22 April when the data for all years are examined, and the figures for more extensive data in 1981 are nearly similar (66 per cent) for the same period (Table 2). Throughout the period of six weeks during which passage occurred in 1981, only 10 per cent of the migration was in the first two weeks, and 24 per cent in the last two. Thus migration gets under way rather slowly, and terminates

more quickly.

TABLE 1
Flock size of Whimbrel *Numenius phaeopus* passing north
along the coast of Somalia

Flock size	Number	Flock size	Number	Flock size	Number
1-10	14	71-80	7	151-200	11
11-20	8	81-90	6	201-250	6
21-30	13	91-100	9	251-300	4
31-40	15	101-120	10	301-350	3
41-50	13	121-130	1	351-400	1
51-60	10	131-140	1	401-450	0
61-70	7	141-150	5	451-500	1

TABLE 2
Weekly numbers of Whimbrel *Numenius phaeopus* passing Mogadishu
in spring 1981

Dates	26.3-1.4	2-8.4	9-15.4	16-22.4	23-29.4	30.4-6.5	Total
Observation (h)	16.2	14.2	11.2	17.4	16.3	15.3	90.6
Numbers of birds	457	362	2476	2792	1808	80	7975
Birds/h	32	26	221	161	111	5	88
per centage of total birds	5.7	4.5	31.0	35.0	22.7	1.0	99.9

HEIGHT

Height of flight was judged for 95 flocks in 1981, of which 47 per cent were at or below 15 m, and the highest at 150 m. However, these figures are not very meaningful, for although high-flying birds remained at a more or less constant height, lower flying birds changed their altitude, often dropping to sea-level and vice versa. Migrating flocks flew higher later in the season, but the reason for this is unknown. The average height of 74 flocks between 26 March and 22 April was 25 m, whereas afterwards the height of 21 flocks averaged much higher at 71 m. The later birds were also closer inshore (see below).

DISTANCE OFFSHORE

In 1979 and 1980 many more flocks were seen close inshore than in 1981, when there were many more days with tail-winds. Birds pass on a front at least 8 km wide, extending from a position above the coastal dunes (rarely) out to sea to the farthest extent of visibility through a telescope. Against the sky the flocks are visible with the naked eye up to perhaps 5 km, but when low over the sea, probably seldom for distances over 1 km. In 1981 I estimated the distances offshore for 93 flocks as:

Over beach	7 (7 per cent)
Within reef (<1 km)	14 (15 per cent)
Over reef (1 km)	12 (13 per cent)
Beyond reef to 2 km	18 (19 per cent)
Beyond reef to 4 km	33 (35 per cent)
Beyond reef to 8 km	9 (10 per cent)

It is mentioned above that the later flocks flew higher. They also flew nearer

inshore: 11 flocks between 24 April and 3 May averaged 0.9 km offshore, compared with 3.0 km for 82 flocks in the earlier period. This marked difference in behaviour between early and late birds cannot be explained by conditions of weather, which remained similar throughout.

FLIGHT SPEED AND FORMATIONS

I failed in my attempts to assess the speed of flying flocks over a measured distance, but I was impressed by the apparent rapid speed of some of them. When viewed through a telescope the birds appeared to be 'straining forward', whereas the flight of coastal non-migrating Whimbrel always appears rather leisurely. Passing flocks rapidly outpaced flocks of migrating terns, which are themselves moving rapidly. I guessed that Whimbrel ground-speed was in the region of 65 km h⁻¹. Often birds in a flock called with their usual 'whinnying' call, and occasionally with a spring 'bubbling' call. Occasionally one or two birds were seen to drop out of flocks and fly to the shore, but these were always restless and soon took off again, apparently without feeding. However, a few feeding birds seen at times along the shore may have left passing flocks.

Almost always flocks took up a V-formation in flight, and with the larger ones there was often a compact group at the lead, but characteristically there was usually a long line of birds trailing behind in one arm, or sometimes both, of the V. At times they adopted a W-formation, or even a series of Vs as they advanced on a broader front. Lower flying flocks often changed altitude, and there was frequent change in formation among the leading birds, as if they were trying to forge ahead. A line of birds approaching frequently wavered or undulated, producing a rippling effect along the line.

TIME OF DAY

As most of my time for observation was in the late afternoon this was naturally when I mostly saw Whimbrel. I was usually out soon after 15:00, but only twice saw flocks before 15:30 on these days; I never saw Whimbrel at dawn watches or at other times of the day, except once. On 19 April, during the period of peak passage, I watched from 10:00-17:30 when flocks passed at 12:10, 12:40, and from 13:50 to 17:10. Thus there may be some other movement earlier in the day which I have not otherwise observed. Whilst moon-watching on 15 April about ½ h after sunset, I saw a V-formation of c. 30 birds cross the face of the moon and remain outlined against illuminated clouds for some time. They appeared to be Whimbrel, and were flying NE very high, probably about over the coastline. On many occasions flocks of migrating Whimbrel were seen around sunset, which in this area is at c. 18:00, and for as long afterwards as enough light remained to see them, but no change in behaviour was noted.

AUTUMN PASSAGE

There is little evidence for a corresponding return passage in autumn. I have only four observations of from 3 to 23 birds flying south over the sea between 8 August and 25 November. The only indication that large numbers of birds might be involved was a record of hundreds sitting in mangrove trees at high tide south of Kismayu (0°22'S, 42°32'E) on 10 October 1978. This is in contrast to the situation in Kenya where there is a large autumn passage (D.J. Pearson *in litt.*).

OTHER SPECIES

Occasionally other smaller waders accompany the Whimbrel flocks, which I think are mostly Grey Plovers *Pluvialis squatarola*. A few Curlew *Numenius arquata* also join them, and I have also seen Crab Plovers *Dromas ardeola*, Oyster-

catchers *Haematopus ostralegus*, and once Ringed Plovers *Charadrius hiaticula*.

Generally other species of waders fly separately, but no spectacular passage has been noted for any of them. The following notes refer only to flocks of birds judged to be actively migrating; they do not include reference to birds on the shore or lagoons which are misleading indicators of the migration actually taking place (*vide* the Whimbrel for example). All are from the Mogadishu area, except where stated otherwise:

Oystercatcher *Haematopus ostralegus* Only noted on three occasions, 6 March - 6 April. Largest party 11, on 6 March; 4 accompanied a flock of Whimbrel on 6 April. All were flying low over the sea.

Caspian Plover *Charadrius asiaticus* Very large numbers pass through in February and March, when flocks fly low over the dunes and beach. However, most probably migrate at night.

Ringed Plover *Charadrius hiaticula* Only seen once: 10 with a flock of 90 Whimbrel on 6 April.

Grey Plover *Pluvialis squatarola* Only noted in 1981, when 16 flocks containing 3 to 115 birds (average 44) passed, 23 April - 10 May. They were probably overlooked in earlier years, for characteristically they fly very high, usually directly above the coastline; the larger flocks are spread out in wide Vs.

Curlew *Numenius arquata* Very few seen, but probably overlooked when accompanying Whimbrel, or even misidentified as such, 2-29 April. One flock of 33 on 2 April.

Greenshank *Tringa nebularia* A few only, mostly single birds, but dates not recorded.

Terek Sandpiper *Xenus cinereus* My only records were 5 flocks, 1-3 April, in 2 years. Two of these contained 40 and 49 birds, and all passed over high above the coastline. A flock of 46 on 8 May 1980 as Garas Wadi (11°16'N, 49°02'E) on the north coast were flying about at sunset in an excited manner whilst other waders were leaving, as if they themselves were about to leave. They do not get into formation in flight.

Sanderling *Calidris alba* Only noted in 1981 when 18 flocks, of 12-80 birds passed between 23 April and 10 May. Many of these flew in compact flocks just above the sea and only a few metres from the beach, but a few, very low, were identified up to 1 km offshore. Possibly many of the unidentified flocks of waders over the sea were this species. Following a day, 27 April 1980, when thousands of Sanderling were present along 47 km of beach at Hafun (10°25'N, 51°20'E), the next morning thousands of small waders in a succession of flocks flew low over the sea round the headland after dawn. They were probably this species, although the possibility that they may have been phalaropes should be considered.

Turnstone *Arenaria interpres* Only 4 flocks seen, of 5-29 birds between 10 and 14 May, all flying high over the head of the beach. One of 29 birds in V-formation, but the others in loose flocks. At Garas Wadi, on the north coast, I watched successive flocks at dusk on 8 May flying out of the estuary, rising high and flying off about northeast.

Crab Plover *Dromas ardeola* Movements are difficult to interpret, particularly as there seem to be long distance feeding flights up and down the coast. Apparently most migration is low over the sea and far offshore, when in spring such flocks were noted between 2 April and 4 May. The largest flock consisted of c. 400 birds, but otherwise they have been in flocks of 30 or fewer. Birds

accompanying Whimbrel flocks may fly higher, but exceptions were 2 flying together steadily north at about 100 m above the shore on 4 May, and birds calling over Mogadishu at night on several occasions. It is likely that migrating flocks of Crab Plovers 'pick-up' additional birds as they pass within sight of them along the shore-line. On 2 April 1980 I watched through a telescope a flock of 226 leave the shore-line and fly straight out to sea to join a passing flock of c. 400 others some 8 km offshore. It seems hardly credible that they could have seen or heard them at this distance from a low position on the shore, but their behaviour left no doubt that this was not a chance encounter.

Many other wader flocks must be missed as they pass high overhead along the shore-line. On many occasions I have heard them calling, including Whimbrel, but have failed to see them against a blue sky.

DISCUSSION

The questions arise as to where these birds originate, where they are heading, and whether they stop to feed or rest anywhere? Obviously, I am seeing only a (probably small) fraction of the birds which pass, so that the total passage must be considerable. Relatively few Whimbrel overwinter in the Mogadishu area, and if one assessed the spring passage on the basis of birds seen along the shore one would conclude it was virtually non-existent. Thus I conclude that passage is *through* the area, and is rapid. I have no evidence of concentrations of Whimbrel elsewhere in Somalia, either further south or further north. I have not visited the south in the spring, so the position south of Kismayu is unknown; but further north at Hafun, for example, where there were large numbers of waders and sea-birds at the end of April 1980, there was only one flock of Whimbrel. The flock of 65 birds flew NE low over the sea, but on reaching the headland turned and returned southwards.

Further south in eastern Africa, Dr D.J. Pearson (*in litt.*) informs me that he has not observed Whimbrel passing north offshore in April, although he has occasionally heard them over Watamu (3°21'S, 40°01'E) at night. The regular coasting movement of adult waders in early autumn are not seen at all in spring. Similarly, P.L. Britton states (*in litt.*) that there is no evidence of coastal passage or large numbers of Whimbrel in spring, but reports also that they have been heard at night over Watamu. Britton (1980) records it as a common winter visitor to East Africa, as do McLachlan & Liversidge (1980) for South Africa, where they note that it occasionally occurs in flocks of up to 50. The birds which pass the Mogadishu area could thus be drawn from the whole of the east African coastline, and doubtlessly pass along its entire length just offshore. Even so, there are presumably areas of concentration somewhere, where several hundred birds can get together into one flock, but if this is the case they do not seem to have been found yet. Alternatively, passing flocks may be augmented as they proceed, but I have no evidence for this from Somalia (but see under Crab Plover for evidence of flock accretion in that species).

It is tempting to conclude from the Somalia evidence that Whimbrel are passing on an uninterrupted long distance flight. As the bulk are seen to pass in the last three hours before sunset, it is conceivable that their non-appearance off the Kenya coast is because they pass there at night, and the observations quoted above by Britton and Pearson support this view. Mogadishu is 593 km northeast of the northern tip of the 440 km-long Kenya coastline. Assuming a ground speed of 65 km h⁻¹, the birds arriving at Mogadishu at 18:00 (sunset), must have joined the Kenya coast at 02:00 that morning, if travelling non-stop. Further observations elsewhere should be able to delineate their flight route throughout the western Indian Ocean. To the north, on reaching

the Asian land mass they must pass overland to their breeding grounds. One wonders what the advantage of a flight over the sea must be in the southern sector of their migration. There is no evidence for anything other than a meagre overland passage of Whimbrel within Africa (Dowsett 1980).

Assuming that the Whimbrel passing Mogadishu at 65 km h⁻¹ are on an uninterrupted long distance coastal flight, and it is hardly conceivable that they could travel for more than 72 h without a break, then they would be near Lindi in Tanzania 24 h earlier, near Beira, Mozambique, 48 h earlier and near Maputo, Mozambique, 72 h earlier. However, Whimbrel are seen continuing their flight over the sea after sunset at Mogadishu, and birds almost certainly this species were seen crossing the face of the moon ½ h after sunset, so that it is most unlikely that they had already travelled for 72 h, and thus that they must have begun their journey somewhere north of southern Mozambique (and probably south of Kenya). There is much evidence that many waders begin migration around sunset, so possibly the birds seen at Mogadishu leave somewhere along the coast of Mozambique or Tanzania.

North of Mogadishu there are no very suitable areas for Whimbrel until one reaches Hafun, some 1150 km or 18 h flying time to the north, but more information is required from there before further suppositions can be made.

Some support for the estimate of flight speed was obtained from near Merca on 24 April 1981. Birds were passing this site some 64 km south of my usual one near Mogadishu between 14:20 and 15:10, and thus about one hour's flying time away. The earliest of these birds would arrive at 15:20, which is close to the time of 15:30 when I normally expect to see them.

CONCLUSION

A large coastal passage of Whimbrel, with smaller numbers of some other waders, occurs in eastern Somalia in spring. The bulk of the Whimbrel seem to pass in the late afternoon between 26 March and 6 May, with the majority passing 9-22 April. Flocks may number up to 500 birds, but over half number 31-120. They extend from the coast up to 8 km out to sea, flying at altitudes from sea-level to 150 m, but later in the season flocks fly higher and nearer inshore. Some of these birds probably originate from as far away as SE Africa, and pass rapidly north in (presumably) a series of non-stop flights, probably passing the length of the Kenya coast at night. At a later stage they must undergo a long overland trans-Asian flight to their breeding grounds. It is possible that a series of traditional stop-over sites for food and rest exist along their flight-route, but these have yet to be discovered. However, it is suggested that one may be along the coast of Tanzania or northern Mozambique.

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